



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,143	12/11/2003	David Meltzer	NP006	7388

20178 7590 11/16/2005

EPSON RESEARCH AND DEVELOPMENT INC
INTELLECTUAL PROPERTY DEPT
150 RIVER OAKS PARKWAY, SUITE 225
SAN JOSE, CA 95134

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,143

Applicant(s)

MELTZER, DAVID

Examiner

Michael B. Shingleton

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-104 is/are pending in the application.
- 4a) Of the above claim(s) 28, 35, 37, 42, 45 and 80-104 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 7, 9, 11-16, 18-21, 38, 46-51 and 79 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 6, 8, 10, 17, 22-27, 29-34, 36, 37, 39-41, 43, 44 and 52-78 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-3-2004
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Applicant's election of Species II in the reply filed on 09/12/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim 51 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 51 ends with no period and ends with the word "and". Clearly limitations were to follow the word "and". However, the scope of the claim is indefinite for it cannot be determined what was to follow the word "and".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-21, 38, 48-50 and 79 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Marinca US2004/0,124,822 (Marinca).

Figures 4 and 5 and the relevant text of Marinca discloses a temperature compensation circuit and electronic circuit employing such. The temperature compensation circuit of Marinca having both CTAT and PTAT generators wherein the "emitter current is a combination of CTAT and PTAT currents" (See paragraph [0047]). Thus the emitter junction node forms a first summing node that sums the first and second current signals and outputs these currents through the emitter output terminal. As to the limitations that the first temperature dependent current signal generator being effective for producing a first current signal proportional to temperature when the temperature is not lower than the first activation temperature and for producing substantially no signal when the temperature is below the first activation temperature. Firstly the claims do not define what the first activation temperature is and thus this can be any temperature

and there is a temperature where the proportional to temperature current generator will not generate a substantial current. The second similar limitation "said second temperature dependent signal generator produces said second current signal when temperature is not lower than said second activation temperature" has the claims not defining exact what temperature the second activation temperature is. Thus this can be any temperature. Also note that like above the second activation temperature can be so low that substantially no current flows. Again applicant has not defined these activation temperatures. Note that the combined current is a result of " V_{be1} is a CTAT voltage, $(\Delta)V_{be}$ is a PTAT voltage" (See paragraph [0047]).

As shown in figure 1 in order to compensate for this curve the proportional to temperature curve would have to be on the "high" temperature side and the inverse to temperature curve would have to be on the low temperature side. Thus when the temperature is low the proportional current generated is low as the current is proportional to temperature. However, when the temperature is low the inverse of this would be high and thus the inverse to temperature generator generates a high current when the temperature is low. Accordingly, the inverse temperature generator is activated at a lower temperature than the proportional current generator.

Claims 19, 20, 21 and 48 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Scherrer 3,483,485 (Scherrer).

Figure 8 and the relevant text of Scherrer disclose a temperature compensation device and oscillator employing such having two voltage generating elements in the form of a positive coefficient resistor and negative coefficient resistors. These two voltage signals are combined at the summing node where V_2 is directed connected such that the "cup" shaped compensation output curve as illustrated in Figure 8a is obtained. In order to obtain the "cup" shaped compensation structure, one of the above mentioned resistors is effectively a low resistance at low temperatures (substantially no voltage signal there across.) and the other is a low resistance at higher temperatures and thus the two claimed activation temperature limitations are met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherrer 3,483,485 (Scherrer) in view of Toncich et al. US2002.0149434 (Tonicich).

Scherrer as applied above in the above 35 USC 102 rejection of claims 19, 20, 21 and 48 and the following. Scherrer is silent on the making of the crystal oscillator variable. Scherrer is also silent on the use of a SAW resonator.

It is well known that by providing voltage adjustable capacitances in a resonant circuit that the frequency output of the crystal oscillator can be varied. Note Figure 4 and elements like FE1 of Toncich.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided Scherrer with at least one voltage variable adjustable capacitance element in the resonant circuit of Scherrer so as to provide a variable frequency function to the oscillator as taught by Toncich.

One of ordinary skill would have been motivated to make the substitution of an SAW (surface acoustic wave) resonator for an crystal resonator resonant circuit since the examiner takes Official Notice of the equivalence of the SAW resonator and crystal resonator for there use in tank circuits and the selection of any of these known equivalents for providing resonant component in a tank circuit would be within the level of ordinary skill in the art.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with

this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 5, 7, 9, 11-16 and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18-28, 47-57 and 72-81 of copending Application No. 10/733,094. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims 18-28, 47-57 and 72-81 of the '094 include all the limitations of the above indicated claims 1, 2, 5, 7, 9, 11-15 and 18 of the instant application ('143 application) plus additional limitations. Note that claims 18-28, 47-57 and 72-81 are relying on the details of the claims 1, 2, 5, 7, 9, 11-15 and 18 of the instant application and thus the claims of the '143 application are not considered patentably distinct from the above indicated claims of the '094 application (See MPEP 806.05(c)II).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

Claims 3, 4, 6, 8, 10, 17, 22-27, 29-34, 36, 37, 39-41, 43, 44, 52-78 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

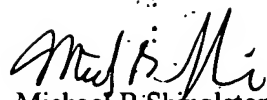
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 and after July 15, 2005 the fax number will be 571-273-8300. Note that old fax number (703-872-9306) will be service until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

November 11, 2005


Michael B Shingleton
Primary Examiner
Group Art Unit 2817